

ENSURING COMPARABILITY OF INEQUALITY AND POVERTY INDICATORS ESTIMATES AT REGIONAL LEVEL

Background

Russian state statistics produce indicators on income distribution statistics since 1970 and poverty rate indicators since 1992.

Data sources

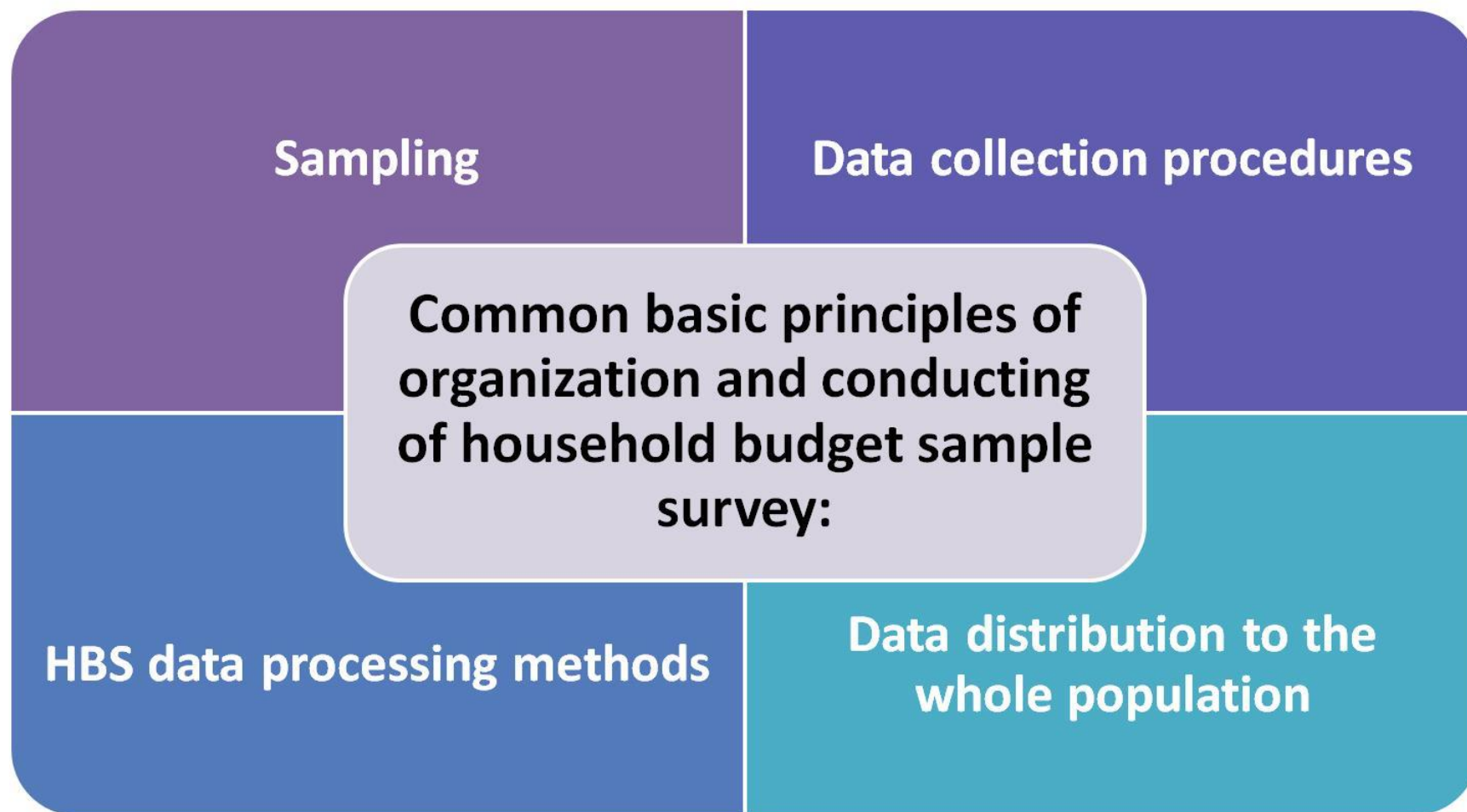
Before 1992 – from the special sample population income survey (every five years up to 1989 inclusive) covering 170 000 households throughout the Russian Federation.

In the period between the surveys – project estimates.

Starting from 1992 – from household budget survey (HBS) (quarterly) covering 48 000 households throughout the Russian Federation.

Starting from 2017 – from annual sample survey of population income and participation in social programs (PIS).

Ensuring interregional comparability of inequality and poverty estimates on the basis of household budget survey (HBS)



Sampling

Two-stage random sample, developed by the territorial principle and ensuring **representative results** if the survey (*within the defined accuracy level, sample size and financial resources*):

- **of the whole population and main socio-economic groups** (throughout Russia):

- ***of the whole population*** (by entities of the Russian Federation).

Data collection procedures

two-week *dairy entries*



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graph TD; A[two-week dairy entries] --> B[the rest of time journal entries]; B --> C["interview of all the household members who are the subject to the survey conducted at the end of the quarter"]
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the rest of time *journal entries*

interview of all the household members who are the subject to the survey conducted at the end of the quarter

HBS data processing methods

Main stages of controlling and editing of primary data

formal control at the stage of entering (invalid values of indicators);

logical control of household information (e.g., linkage between age and occupation, etc.);

linkage between the documents (e.g., on the household composition);

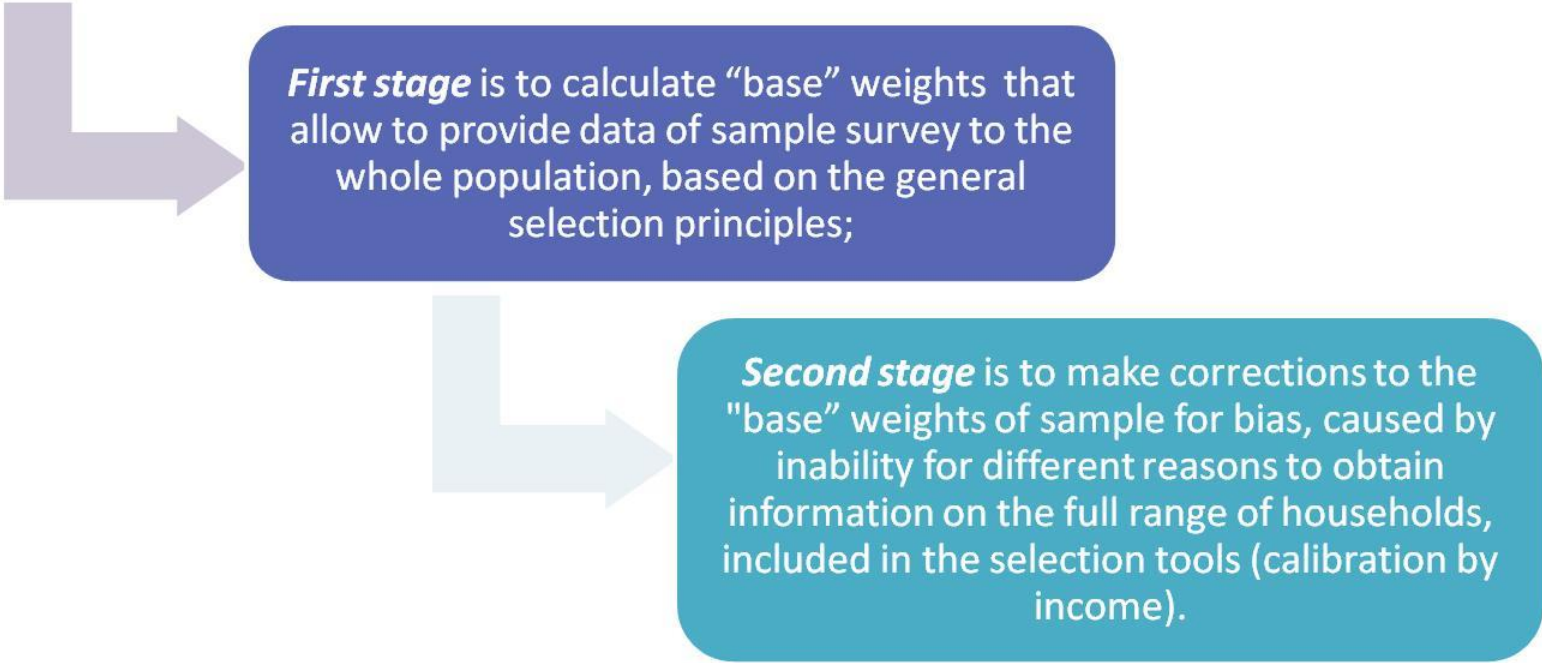
price control on strongly distinctive values.

Distribution of dairy entries in the quarterly period

Transformation of weekly dairy entries before the quarterly period

Data distribution to the whole population

Compiling of **statistical weights** is made in two stages:




First stage is to calculate “base” weights that allow to provide data of sample survey to the whole population, based on the general selection principles;

Second stage is to make corrections to the “base” weights of sample for bias, caused by inability for different reasons to obtain information on the full range of households, included in the selection tools (calibration by income).


Features in obtaining differentiation and poverty indicators estimates from HSE

HBS program doesn't contain direct indicators on the total income

- Income estimates of each surveyed household are produced by calculation method as the sum of cash expenditures and net acquisition (reduction) of financial assets in the survey period.



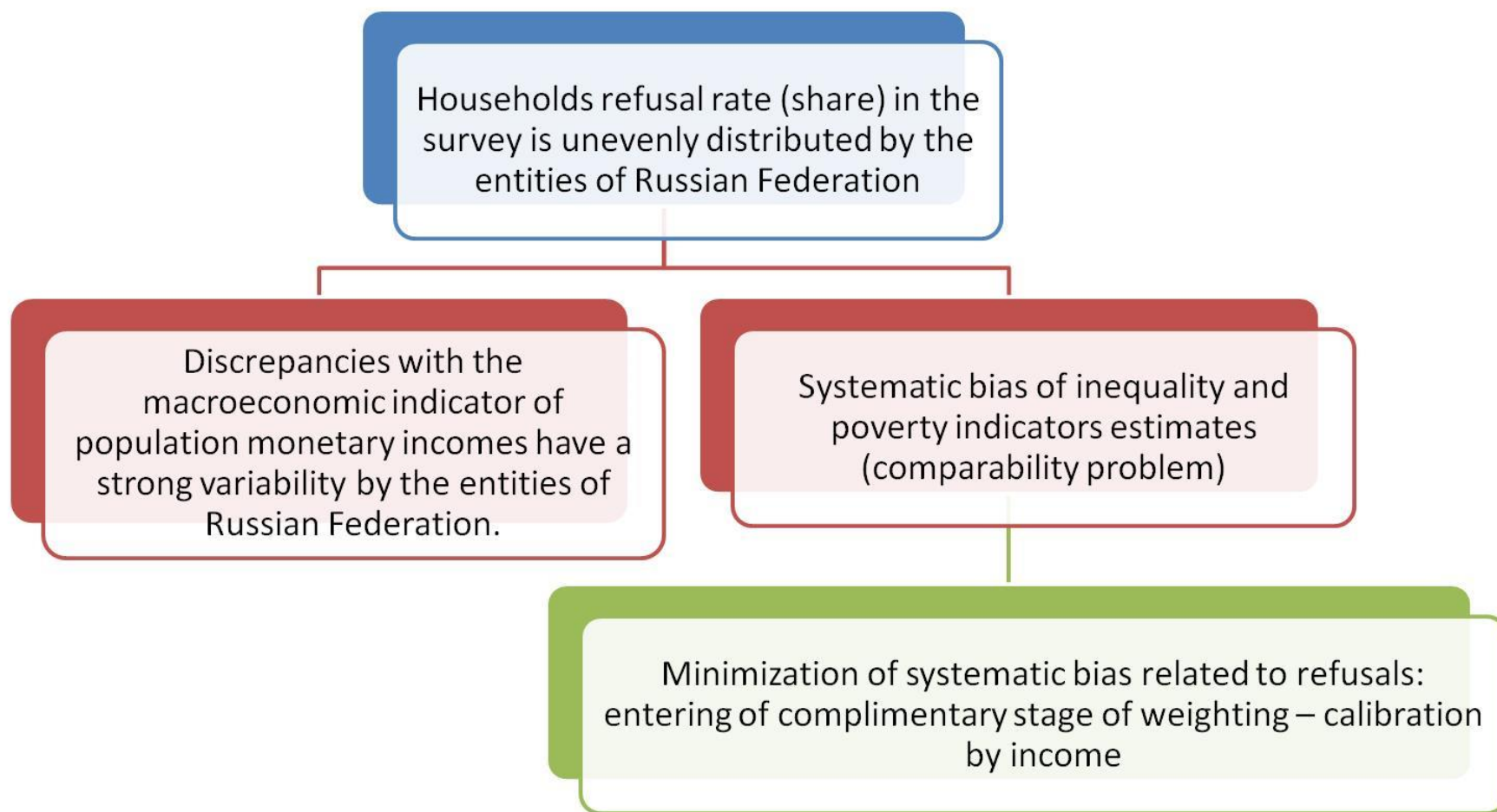
HBS results distributed to the whole population contain substantial discrepancies with the macroeconomic indicator of population monetary incomes.



The main reasons are:

- low reliability of indicators of savings gain and of high-cost expenses items;
- refusals of population groups having relatively high income to participate in the survey.

Negative impact of households' non-participation in the survey on the regional comparability of inequality and poverty indicators



Increasing comparability of poverty rate regional estimates under biased poverty estimates as a direct result of HBS

Quantitative evaluation of inequality and poverty rates in income distribution:



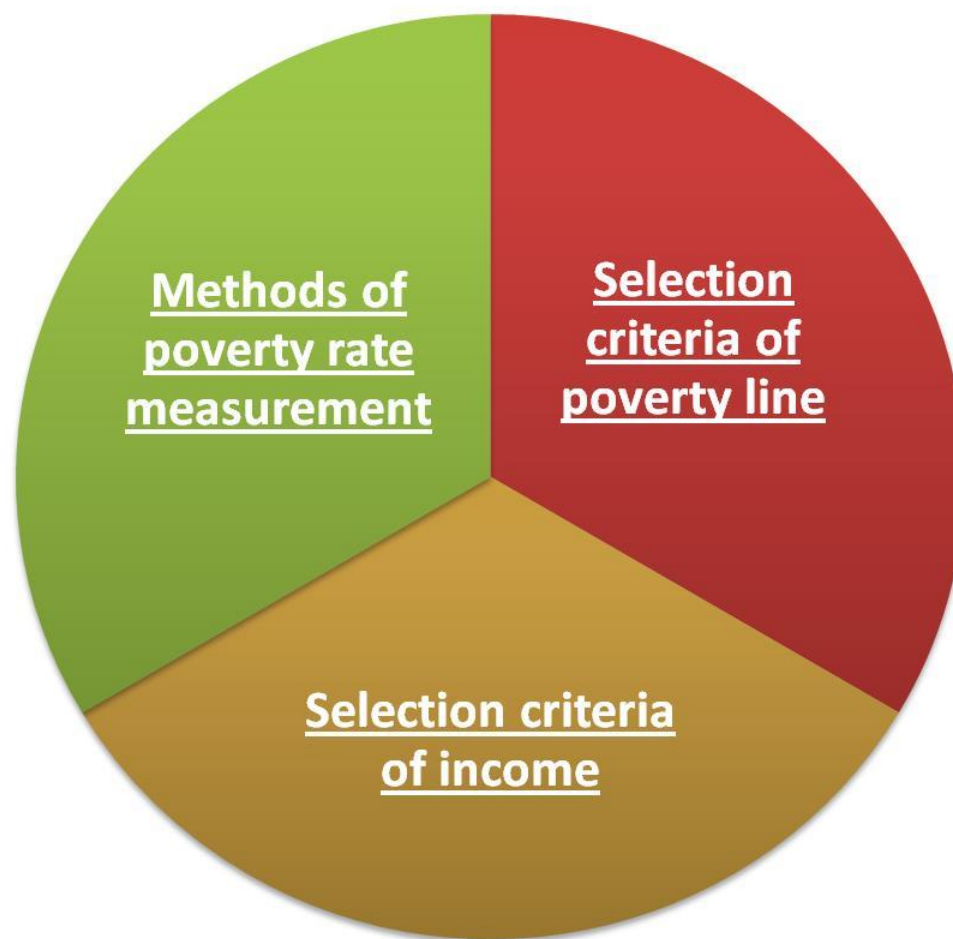
using analytical model,
based on the hypothesis of
lognormal income
distribution

Structural evaluation of poverty (poverty profile):



based on the household
budget survey

Application of the common methodology of poverty measurement – a determinant ensuring interregional comparability



Selection criteria of poverty line

The procedure of establishing of **subsistence minimum level** is subject to the Federal Law of October 24, 1997 "On the Subsistence Minimum in the Russian Federation". According to the Law the subsistence minimum level represents a valuation of the consumer basket as well as compulsory payments and fees.

Analytical model:

- the subsistence minimum level for the entire population per capita.

On the basis of HBS:

- the subsistence minimum level of the household is determined as a sum of relevant indicators by different socio-demographic groups of population, based on the actual composition of each surveyed household

Selection criteria of income

Analytical model:

monetary income of population (macroeconomic indicator of monetary income of population) is based on the information from different subjects of official statistical accounting on payments to population with increase for informal economy sector.

On the basis of HBS:

disposable household resources is the composite of monetary income of population, sums of spent savings and attracted funds (borrowings) and value of in-kind flows.

Methods of poverty rate measurement

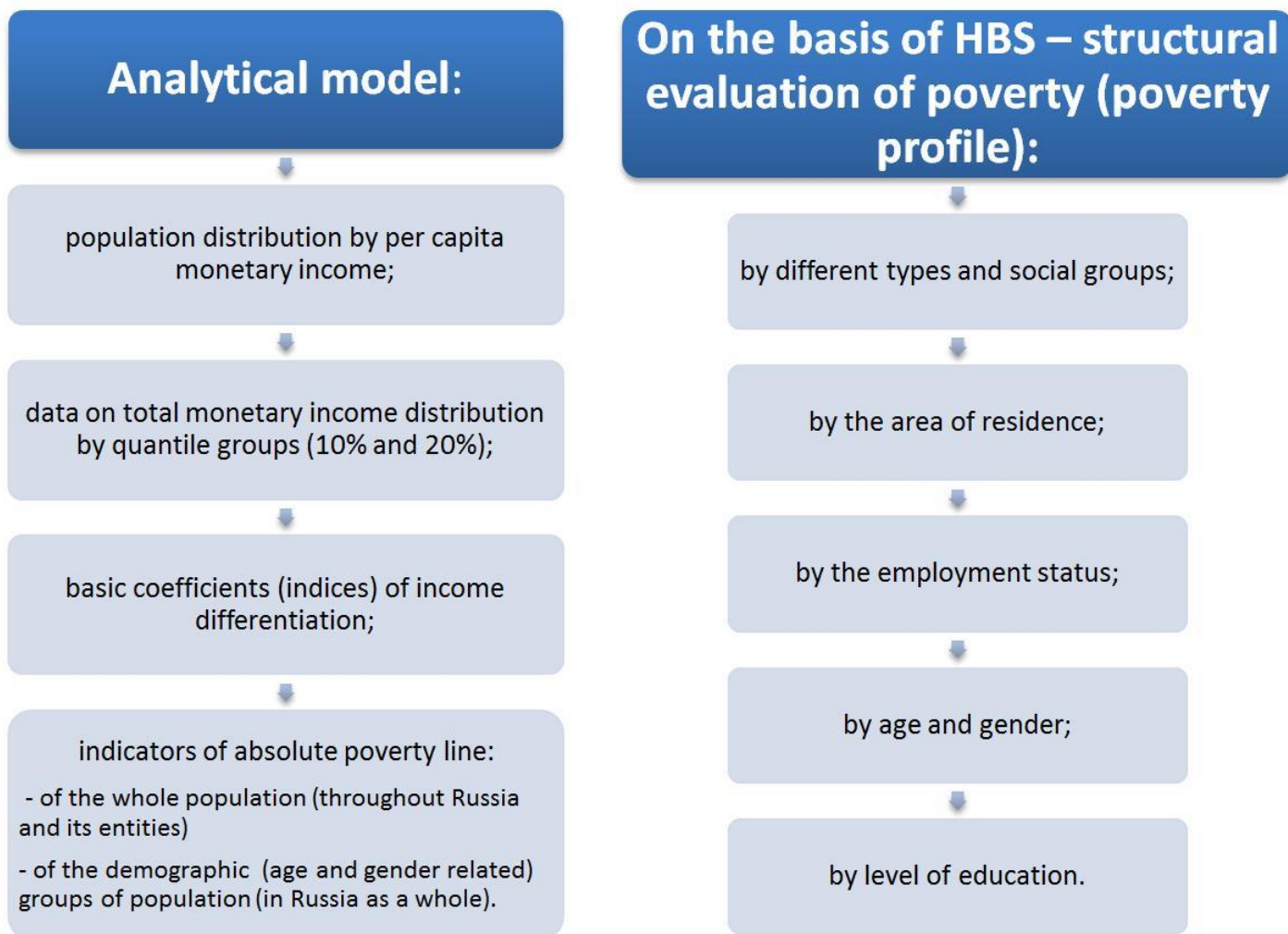
Analytical model:

the number and proportion of population with monetary incomes below the subsistence minimum level is based on the estimated data on population distribution by the value of monetary income per capita.

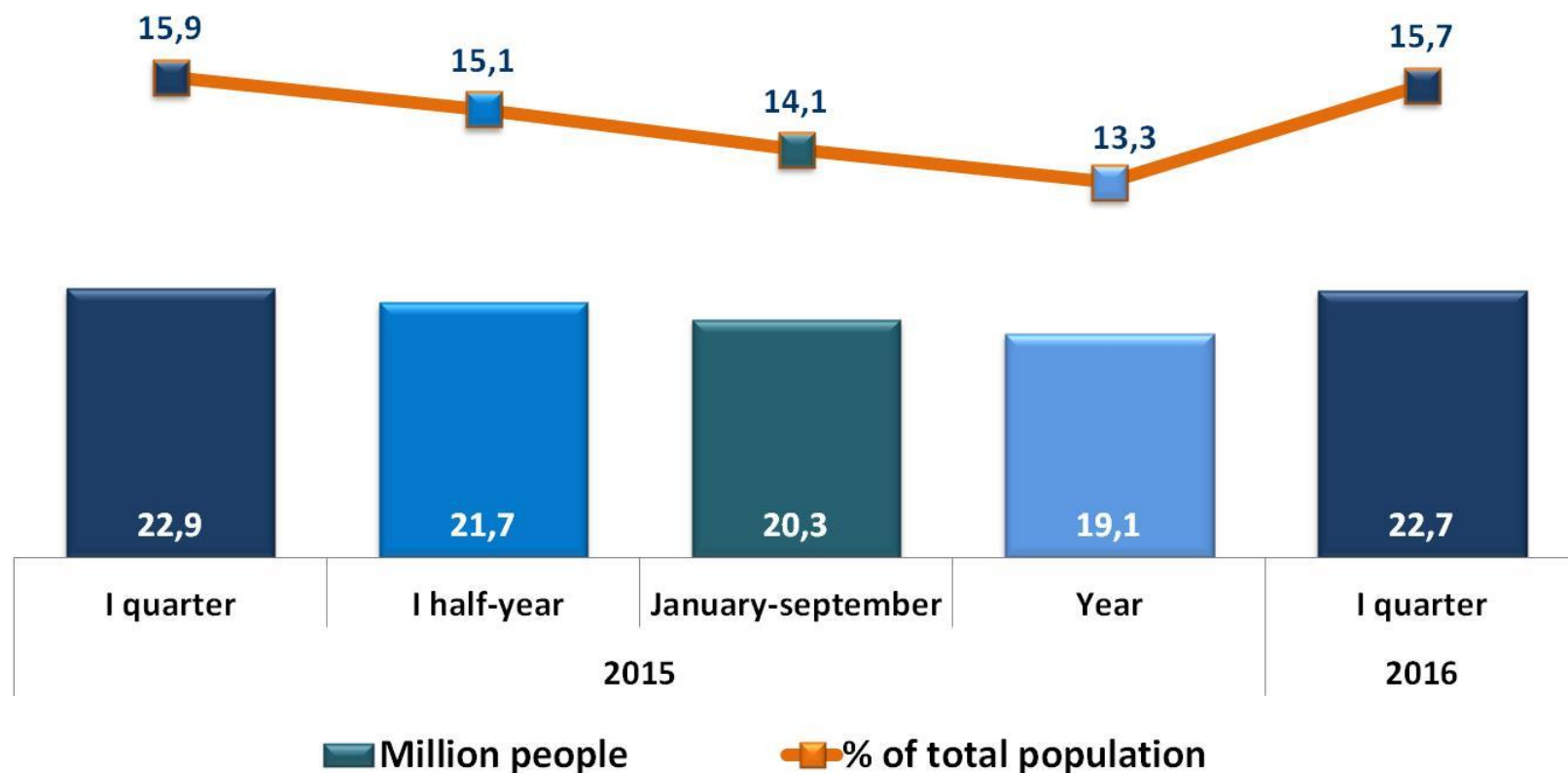
On the basis of HBS:

proportion of population/households with disposable resources per capita below the subsistence minimum level.

Key indicators of inequality and poverty comprised at the regional level



NUMBER OF POPULATION WITH MONETARY INCOMES BELOW THE SUBSISTENCE MINIMUM LEVEL (for the current and previous years)



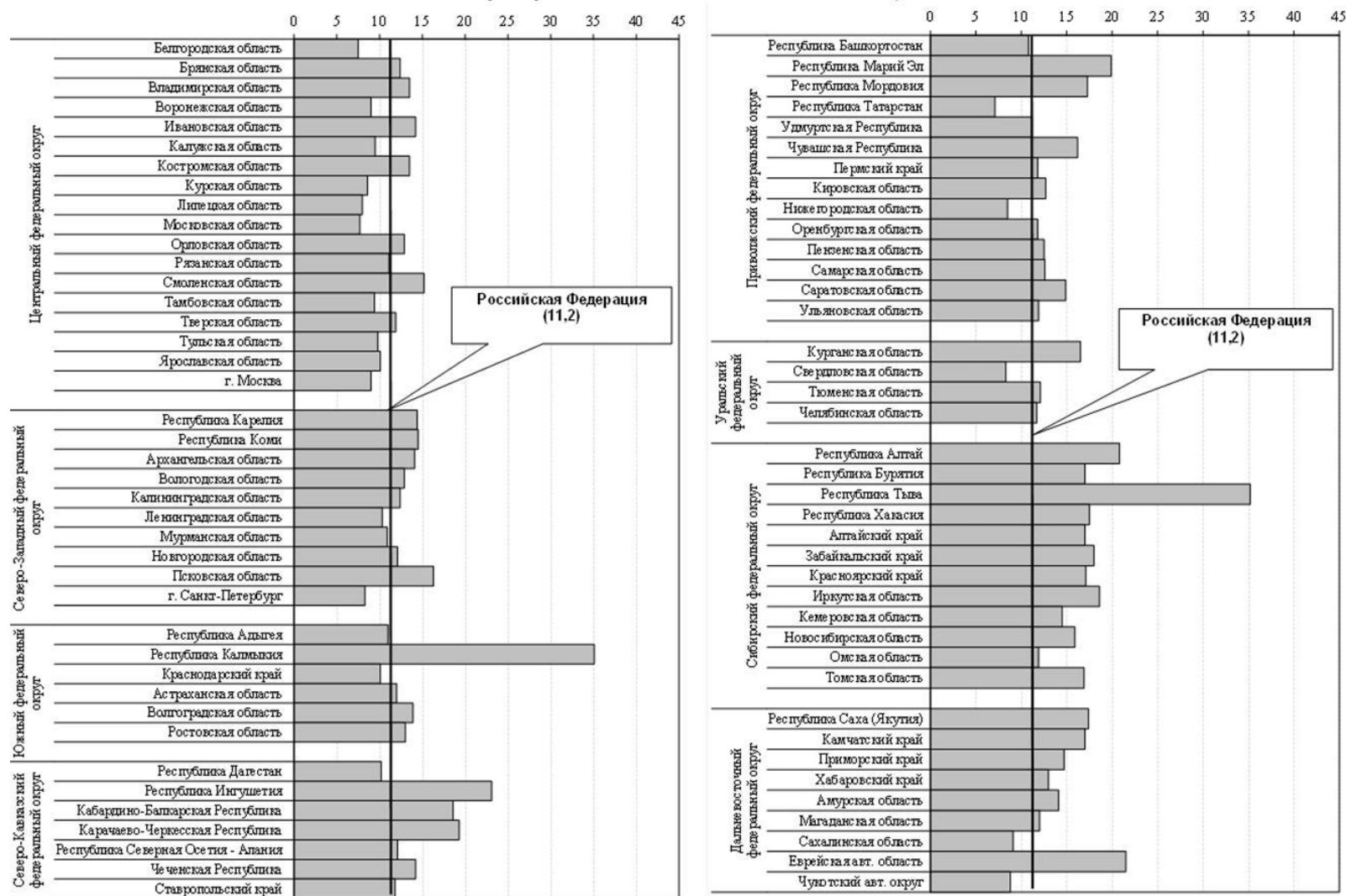
NUMBER OF POPULATION WITH MONETARY INCOMES BELOW THE SUBSISTENCE MINIMUM LEVEL ¹⁾



¹⁾ Since 2005 the composition of consumer basket has been modified for determining the subsistence minimum level. Since 2013 the calculation of the subsistence minimum level has been modified.

²⁾ Preliminary data.

The number of population living in poverty by the entities of the Russian Federation in 2014 (percentage of the number of population in the ratio)



NUMBER OF POPULATION WITH MONETARY INCOMES BELOW THE SUBSISTENCE MINIMUM LEVEL

	Number of population with monetary incomes below the subsistence minimum level:		Deficiency of monetary income:		The subsistence minimum level ¹⁾ RUB per month; before 1998 – thousands of rubles
	million people	% of total population	billion rubles (before 1998 - trillion rubles)	% of total monetary income of population	
1992	49,3	33,5	0,4	6,2	1,9
1993	46,1	31,3	4,3	5,4	20,6
1994	32,9	22,4	11,1	3,1	86,6
1995	36,5	24,8	34,9	3,9	264,1
1996	32,5	22,1	42,8	3,2	369,4
1997	30,5	20,8	46,2	2,8	411,2
1998	34,3	23,4	61,5	3,5	493,3
1999	41,6	28,4	141,3	4,9	907,8
2000	42,3	29,0	199,2	5,0	1210
2001	40,0	27,5	238,6	4,5	1500
2002	35,6	24,6	250,5	3,7	1808
2003	29,3	20,3	235,3	2,6	2112
2004	25,2	17,6	225,7	2,1	2376
2005	25,4	17,8	288,7	2,1	3018
2006	21,6	15,2	277,1	1,6	3422
2007	18,8	13,3	272,1	1,3	3847
2008	19,0	13,4	326,7	1,3	4593
2009	18,4	13,0	354,8	1,2	5153
2010	17,7	12,5	375,0	1,2	5688
2011	17,9	12,7	424,1	1,2	6369
2012	15,4	10,7	370,5	0,9	6510
2013	15,5	10,8	417,9	0,9	7306
2014	16,1	11,2	478,6	1,0	8050
2015	19,1 ²⁾	13,3 ²⁾	684.9 ²⁾	1,3 ²⁾	9701

Source: Estimates based on the household budgets sample survey and macroeconomic indicator of population monetary income.

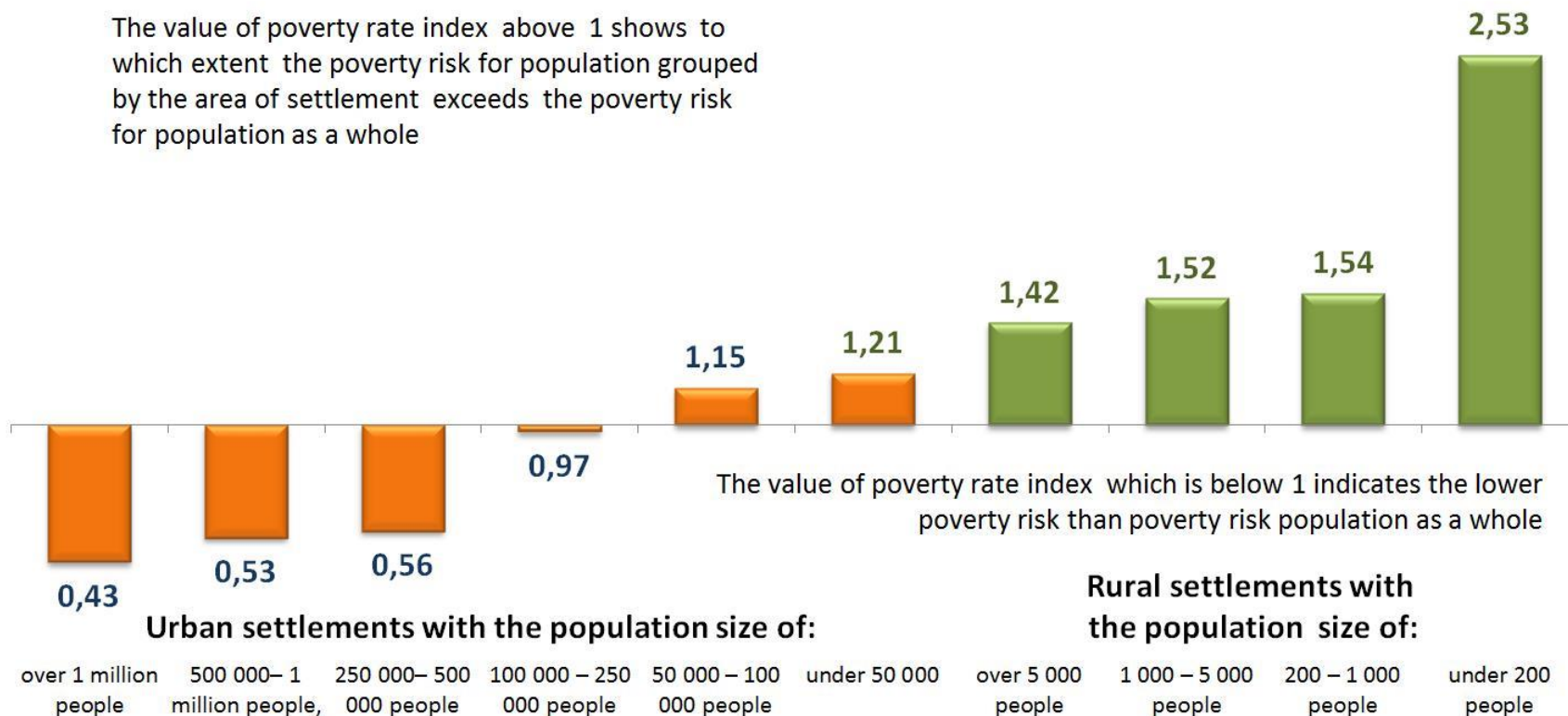
1) Since 2000 the methodology of calculation of the subsistence minimum level has been modified. Since 2005 the composition of consumer basket has been modified for determining the value of the subsistence minimum. Since 2013 the calculation of the minimum subsistence level has been modified..

2) Preliminary data.

POVERTY RISK INDEX¹ BY HUMAN SETTLEMENTS WITH DIFFERENT POPULATION SIZE IN 2014

(based on the household budget sample survey)

The value of poverty rate index above 1 shows to which extent the poverty risk for population grouped by the area of settlement exceeds the poverty risk for population as a whole



¹ **Poverty risk index** is defined as a ratio of poverty rate of specific demographic or socio-economic population group to poverty rate of the population as a whole.

POVERTY RISK INDEX WITH REGARD TO THE AGE AND GENDER IN 2014

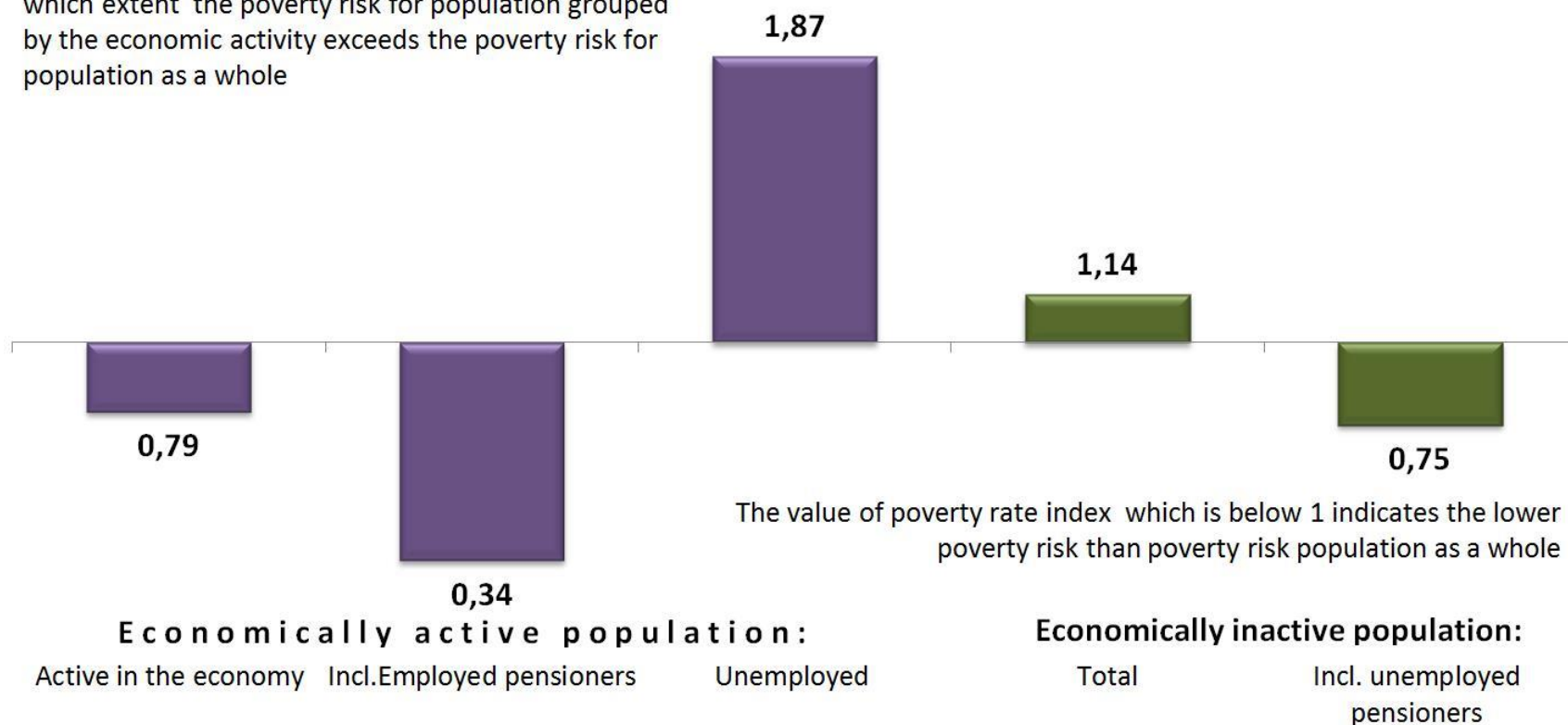
(based on the household budget sample survey)



POVERTY RISK INDEX WITH REGARD TO THE ECONOMIC ACTIVITY OF THE POPULATION ¹⁾ IN 2014

(based on the household budget sample survey)

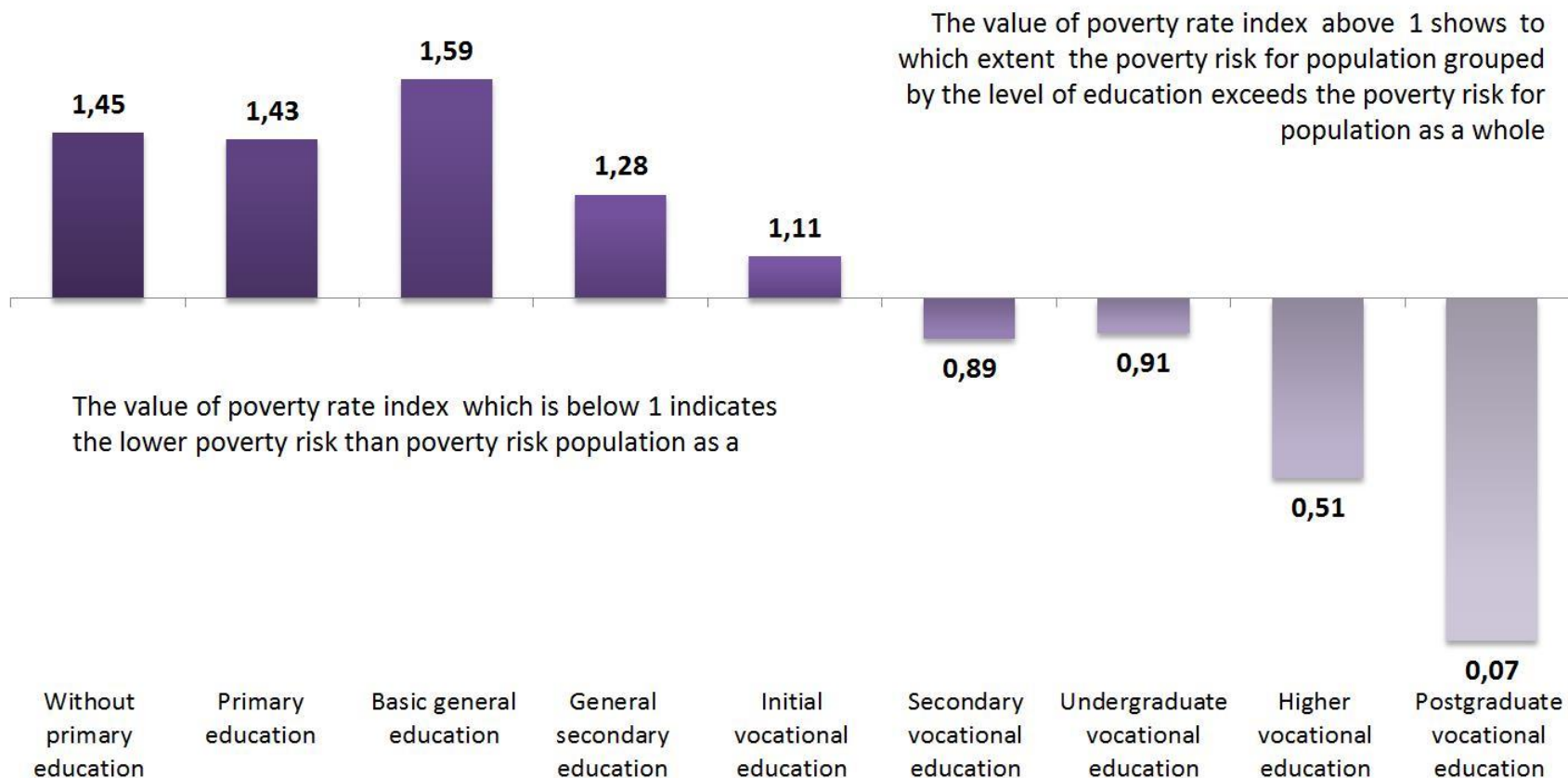
The value of poverty rate index above 1 shows to which extent the poverty risk for population grouped by the economic activity exceeds the poverty risk for population as a whole



¹⁾ People aged 15 years old and above.

POVERTY RISK INDEX WITH REGARD TO THE LEVEL OF EDUCATION ¹⁾ IN 2014

(based on the household budget sample survey)



¹⁾ People aged 10 years old and above.

POPULATION DISTRIBUTION BY PER CAPITA MONETARY INCOMES

(%)

	2009	2010	2011	2012	2013	2014	2015 ¹⁾
Total population	100	100	100	100	100	100	100
Incl. per capita monetary incomes per month in RUB:							
up to 5 000,0	12,2	9,4	7,3	5,7	4,2	3,3	2,4
from 5 000,1 to 7 000,0	10,9	9,4	8,1	6,8	5,6	4,8	3,8
from 7 000,1 to 9 000,0	10,8	9,8	8,9	7,9	6,8	6,1	5,1
from 9 000,1 to 12 000,0	14,2	13,6	12,9	12,0	10,8	10,0	8,9
from 12 000,1 to 15 000,0	11,3	11,3	11,3	10,8	10,3	9,9	9,2
from 15 000,1 to 20 000,0	13,4	14,1	14,6	14,6	14,5	14,4	14,0
from 20 000,1 to 25 000,0	8,6	9,5	10,2	10,7	11,2	11,4	11,6
from 25 000,1 to 30 000,0	5,6	6,4	7,1	7,8	8,4	8,8	9,2
from 30 000,1 to 35 000,0	3,7	4,4	5,0	5,7	6,3	6,7	7,2
from 35 000,1 to 40 000,0	2,5	3,1	3,6	4,1	4,7	5,1	5,6
from 40 000,1 to 50 000,0²⁾	6,8	3,8	4,5	5,4	6,3	7,0	7,9
from 50 000,1 to 60 000,0³⁾	...	5,2	6,5	3,1	3,8	4,2	4,9
Over 60 000,0	...	...	...	5,4	7,1	8,3	10,2

Source: Estimates based on the household budgets sample survey and macroeconomic indicator of population monetary income.

¹⁾ Preliminary data.

²⁾ 2009 – over 40000 RUB

³⁾ 2010-2011 r – over 50000 RUB

DISTRIBUTION OF TOTAL MONETARY INCOME AND FEATURES OF POPULATION

MONETARY INCOME DIFFERENTIATION

	Monetary income ¹⁾ – total	Incl. by 20 % population groups (%):					Decile coefficient of funds	Gini coefficient
		First (with the lowest income)	second	third	forth	Fifth (with the highest income)		
1970	100	7,8	14,8	18,0	22,6	36,8	...	...
1980	100	10,1	14,8	18,6	23,1	33,4	...	...
1990	100	9,8	14,9	18,8	23,8	32,7	...	...
1995	100	6,1	10,8	15,2	21,6	46,3	13,5	0,387
1996	100	6,1	10,7	15,2	21,6	46,4	13,3	0,387
1997	100	5,9	10,5	15,3	22,2	46,1	13,6	0,390
1998	100	6,0	10,6	15,0	21,5	46,9	13,8	0,394
1999	100	6,0	10,5	14,8	21,1	47,6	14,1	0,400
2000	100	5,9	10,4	15,1	21,9	46,7	13,9	0,395
2001	100	5,7	10,4	15,4	22,8	45,7	13,9	0,397
2002	100	5,7	10,4	15,4	22,7	45,8	14,0	0,397
2003	100	5,5	10,3	15,3	22,7	46,2	14,5	0,403
2004	100	5,4	10,1	15,1	22,7	46,7	15,2	0,409
2005	100	5,4	10,1	15,1	22,7	46,7	15,2	0,409
2006	100	5,3	9,9	15,0	22,6	47,2	15,9	0,415
2007	100	5,1	9,8	14,8	22,5	47,8	16,7	0,422
2008	100	5,1	9,8	14,8	22,5	47,8	16,6	0,421
2009	100	5,2	9,8	14,8	22,5	47,7	16,6	0,421
2010	100	5,2	9,8	14,8	22,5	47,7	16,6	0,421
2011	100	5,2	9,9	14,9	22,6	47,4	16,2	0,417
2012	100	5,2	9,8	14,9	22,5	47,6	16,4	0,420
2013	100	5,2	9,8	14,9	22,5	47,6	16,3	0,419
2014	100	5,2	9,9	14,9	22,6	47,4	16,0	0,416
2015 ²⁾	100	5,3	10,0	15,1	22,8	47,0	15,6	0,412

Source: Estimates based on the household budgets sample survey and macroeconomic indicator of population monetary income

1) 1970-1990 - total income (given the value of net production from private household plots).

2) Preliminary data.

More detailed information is available at the official Rosstat's web-page :

Bulletin "Socio-economic poverty indicators"

http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1252310752594

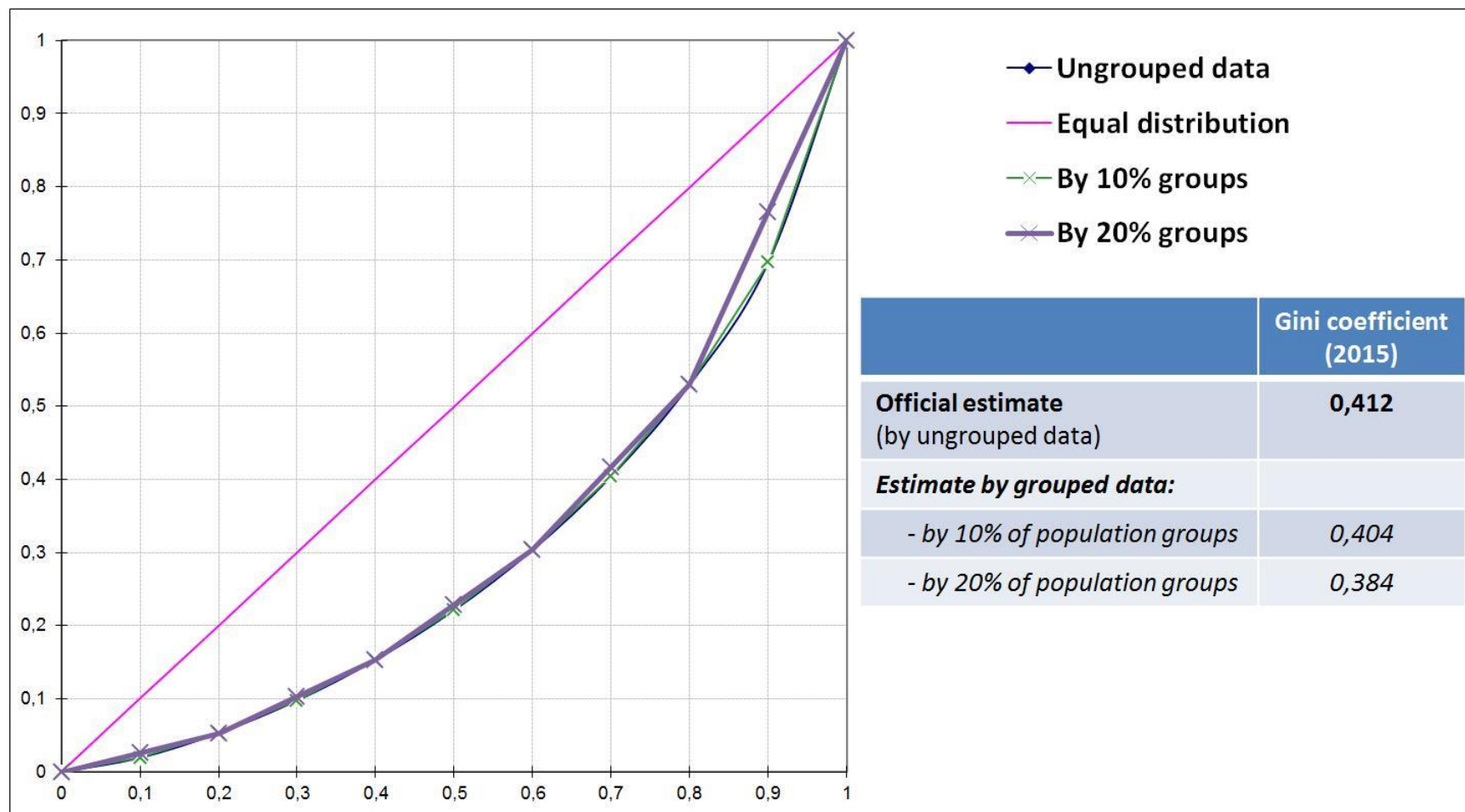
Section "Standard of living"

http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/livel/

Section "Inequality and poverty"

http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/poverty/

Impact of the calculation method on comparability of values. Example: Gini coefficient



Impact of equivalence scales on comparability of absolute and relative poverty estimates

(based on the PIS for the year 2013)

Proportion of population with monetary income below the subsistence minimum level

	Total	Younger than working age	Working age	Older than working age
Poverty rate				
E=1	11,1	20,5	10,9	3,2
E=0,73	5,0	9,3	5,1	1,2
E=0,5	2,7	4,7	2,8	0,6
Poverty profile				
E=1	100	35,9	57,9	6,2
E=0,73	100	35,8	59,2	5,0
E=0,5	100	33,9	61,5	4,6

Proportion of population with monetary income below 50% of median income of total population

	Total	Younger than working age	Working age	Older than working age
Poverty rate				
E=1	15,6	26,7	14,8	8,0
E=0,73	15,1	22,9	13,6	12,0
E=0,5	15,7	20,2	13,1	18,8
Poverty profile				
E=1	100	33,2	55,7	11,1
E=0,73	100	29,5	53,1	17,3
E=0,5	100	25,0	49,1	25,9

In calculating the absolute poverty Rosstat does not use equivalence scales, as the subsistence minimum level (absolute poverty line) for a household generally defined in terms of its composition as a sum of relevant indicators set out in the specific entity of the Russian Federation for different socio-demographic population groups, taken into account a calculation of basic expenses for personal consumption and total family expenditures do not exceed 5%.

**THANK YOU FOR YOUR
ATTENTION!**